Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. **(currently amended)** A layer jump control apparatus for controlling a layer jump process of an optical drive, wherein the layer jump process comprises a kicking process, a holding process, a braking process and a waiting process, the layer jump control apparatus comprising:

a pick up head having a lens and a voice coil motor, wherein the pick up head drives the voice coil motor in accordance with a driving force to vertically move the lens;

a preamplifier for producing a focusing error signal;

a controller for receiving the focusing error signal and producing a focusing control signal;

a low pass filter for ~~continuously~~ receiving the focusing control signal and producing a layer distance balancing signal; and

a driving device for outputting the driving force;

wherein:

the driving device receives the focusing control signal to determine the driving force when the optical drive does not perform the layer jump process;

the driving device receives a kicking signal and the layer distance balancing signal to determine the driving force when the optical drive performs the kicking process;

the driving device receives a braking signal and the layer distance balancing signal to determine the driving force when the optical drive performs the braking process; ~~and~~

the driving device receives the layer distance balancing signal to determine the driving force when the optical drive performs the holding process and the waiting process;

the braking process is initiated when the focusing error signal reaches a first checking point, and is performed for a predetermined period of time; and

the waiting process is performed after the braking process, and is completed when the focusing error signal reaches a second checking point.

2. **(original)** The layer jump control apparatus according to claim 1, wherein the optical drive is a DVD drive.

3. **(original)** The layer jump control apparatus according to claim 1, wherein the controller is an equalizer.

4. **(original)** The layer jump control apparatus according to claim 1, wherein the layer distance balancing signal is a direct current voltage level of the focusing control signal.

5. **(currently amended)** An optical drive for performing a layer jump process, wherein the layer jump process comprises a kicking process, a holding process, a braking process and a waiting process, the optical drive comprising:

a pick up head having a lens and a voice coil motor, wherein the pick up head drives the voice coil motor in accordance with a driving force to vertically move the lens;

a preamplifier for producing a focusing error signal;

a controller for receiving the focusing error signal and producing a focusing control signal;

a low pass filter for ~~continuously~~ receiving the focusing control signal and producing a layer distance balancing signal; and

a driving device for outputting the driving force;

wherein:

the driving device receives the focusing control signal to determine the driving force when the optical drive does not perform the layer jump process;

the driving device receives a kicking signal and the layer distance balancing signal to determine the driving force when the optical drive performs the kicking process;

the driving device receives a braking signal and the layer distance balancing signal to determine the driving force when the optical drive performs the braking process; ~~and~~

the driving device receives the layer distance balancing signal to determine the driving force when the optical drive performs the holding process and the waiting process;

the braking process is initiated when the focusing error signal reaches a first checking point, and is performed for a predetermined period of time; and

the waiting process is performed after the braking process, and is completed when the focusing error signal reaches a second checking point.

6. **(original)** The optical drive according to claim 5, wherein the optical drive is a DVD drive.

7. **(original)** The optical drive according to claim 5, wherein the controller is an equalizer.

8. **(original)** The optical drive according to claim 5, wherein the layer distance balancing signal is a direct current voltage level of the focusing control signal.

9. **(currently amended)** A method of controlling an optical drive to perform a layer jump process, wherein the optical drive comprises ~~a vertically movable pick-up head,~~ a preamplifier, a controller, and a low pass filter, the method comprising the steps of:

receiving a focusing error signal produced by the preamplifier in the controller to produce a focusing control signal;

~~continuously~~ sending the focusing control signal to the low pass filter to produce a layer distance balancing signal;

performing a kicking process to determine a driving force in accordance with a kicking signal and the layer distance balancing signal;

performing a holding process to determine the driving force in accordance with the layer distance balancing signal;

performing a braking process for a predetermined period of time, to determine the driving force in accordance with a braking signal and the layer distance balancing signal, wherein the braking process is initiated when the focusing error signal reaches a first checking point; and

performing a waiting process to determine the driving force in accordance with the layer distance balancing signal, after the braking process and until the focusing error signal reaches a second checking point.

10. **(original)** The method according to claim 9, wherein the optical drive is a DVD drive.

11. **(original)** The method according to claim 9, wherein the controller is an equalizer.

12. **(original)** The method according to claim 9, wherein the layer distance balancing signal is a direct current voltage level of the focusing control signal.

13. (**new**) The method according to claim 9, further comprising determining the driving force according to the focusing control signal before performing the waiting process and after completion of the kicking process.

14. (**new**) The method according to claim 9, further comprising driving a pick up head in accordance with the driving force to vertically move a lens.

15. (**new**) The layer jump control apparatus according to claim 1, wherein the low pass filter operates independently from a layer jump control signal.

16. (**new**) The optical drive according to claim 5, wherein the low pass filter operates independently from a layer jump control signal.